



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.													
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End - Term Examinations – MAY/ JUNE 2025

Date: 02-06-2025

Time: 01:00 pm – 04:00 pm

School: SOCSE	Program: B. Tech -CBD	
Course Code: CSE3352	Course Name: Information Visualization	
Semester: IV	Max Marks: 100	Weightage: 50%

CO - Levels	C01	C02	C03	C04	C05
Marks					

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	Summarize the evolution of data visualization and its impact	2 Marks	L2	C01
2.	What are some common pitfalls in data visualization, and how can they be avoided?	2 Marks	L2	C01
3.	How do Gestalt principles apply to data visualization?	2 Marks	L2	C02
4.	What are annotations in visualizations, and how do they enhance understanding?	2 Marks	L2	C02
5.	Identify two visualization techniques suitable for representing multivariate data	2 Marks	L2	C03
6.	What visualization techniques are effective for displaying hierarchical data	2 Marks	L2	C03
7.	How do mapping tools in Power BI enhance the understanding of geospatial data?	2 Marks	L2	C03
8.	What role does interactivity play in enhancing a dashboard's effectiveness?	2 Marks	L2	C04

9.	Identify a common issue found in poor visualizations	2 Marks	L2	CO4
10.	What features of Power BI enhance the interactivity of dashboards?	2 Marks	L2	CO4

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Explain how data visualization can be used to identify trends and patterns in large datasets. Provide examples of specific visualizations that are effective for trend analysis.	10 Marks	L2	CO 1
	b.	Outline the transition from static to interactive visualizations. What are the benefits of interactivity in data visualization, and how has it changed the way users interact with data?	10 Marks	L2	CO 1
Or					
12.	a.	Explain the importance of color theory in data visualization. How can color choices impact the interpretation of data, and what best practices should be followed when selecting colors for visualizations?	10 Marks	L2	CO 1
	b.	Outline the role of community and support resources in the effectiveness of data visualization tools like Tableau, Power BI, and ggplot2. How do these resources contribute to user success and learning?	10 Marks	L2	CO 1

13.	a.	Explain the impact of color perception on data visualization. How can color choices affect the interpretation of data, and what best practices should be followed to ensure effective use of color?	10 Marks	L2	CO 2
	b.	Explain the role of data in visualization. How does the quality and type of data influence the choice of visualization components and the overall effectiveness of the visualization?	10 Marks	L2	CO 2
Or					
14.	a.	Apply infographics as a visualization technique in Netflix Recommendation System. What are the strengths and weaknesses of infographics in conveying complex data compared to traditional charts and graphs?	10 Marks	L3	CO 2
	b.	Compare advanced visualization techniques such as treemaps, bubble charts, and radar charts. Discuss their applications and the types of data they are best suited for.	10 Marks	L2	CO 2

15.	a.	Apply the concept of time series decomposition in GIS Systems. How can visualizations be used to illustrate the components of a time series, such as trend, seasonality, and residuals?	10 Marks	L3	CO 3
	b.	Contrast the various techniques used for visualizing text-based data, . Discuss the strengths and weaknesses of each technique.	10 Marks	L3	CO 3
Or					
16.	a.	Develop a scenario to demonstrate how can NLP techniques enhance the extraction of insights from unstructured text data,	10 Marks	L3	CO 3
	b.	Model choropleth map using ggplot2's geom_map(). Discuss the data preparation steps required and the types of insights that can be derived from such a visualization.	10 Marks	L3	CO 3

17.	a.	Demonstrate a poorly executed data visualization that led to misinterpretation or confusion. What specific design flaws contributed to its ineffectiveness, and how could these issues have been addressed?	10 Marks	L2	CO 4
	b.	Develop a storyboard with case studies of successful visualizations. How did the narrative structure enhance the impact of the visualizations, and what techniques were used to engage the audience?	10 Marks	L3	CO 4
Or					
18.	a.	Explain the implications of misleading visualizations. Provide examples of common pitfalls in data visualization ethics and suggest strategies to avoid them.	10 Marks	L2	CO 4
	b.	Develop dashboard design for a recommendation system and show how can interactive elements enhance user experience and facilitate deeper exploration of the data?	10 Marks	L3	CO 4